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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,088	02/02/2004	Ken Iizuka	248430US6	6566

22850 7590 10/16/2008

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ART UNIT	PAPER NUMBER
2624	

NOTIFICATION DATE	DELIVERY MODE
10/16/2008	ELECTRONIC

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/768,088
Filing Date: February 02, 2004
Appellant(s): IIZUKA, KEN

Ken Lizuka
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 6/13/2008 appealing from the Office action mailed 11/14/2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US 2002/0090109 A1	Wendt	07-2002
US 2003/0039405 A1	Oosawa	02-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections – 35 USC 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 9-12, 17-22 and 25 are rejected under 35 U.S.C. 102(b) as being unpatentable in view of Wendt (US 2002/0090109 A1).

Wendt discloses method (abstract disclose the method of the art, page 1 paragraph 0001 disclose that this a method to be carry out) carry out by a system (page 2 paragraph 0013 disclose format of the system by varies hardware means that carries out the directives, page 2 paragraph 0015 further disclose the system) regarding image matching between two images:

(1) Regarding claim 1:

a correction information generating means (page 3 paragraph 0033 disclose the deviation between the actual and reference is calculated, where this is seen as calculating the need correction information first in order for correction, this is also seen as the first step of a method, and first routine to be carry out on a image such that will be up to the standards/requirement for matching) for performing a Fourier transform and a log-polar coordinate transform (page 1 paragraph 0007 disclose apply log-polar and Fourier transform as part of the image processing for selected image) to said first image and said second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) and generating correction information (page 3 paragraph 0033 disclose correction information such as actual and reference position and size which can further adjust image by resizing and rotation patter of image) of said first image based on the results of said Fourier transform and log-polar coordinate transform (page 1 paragraph 0007 disclose apply log-polar and Fourier transforms to an image, page 3 paragraph 0033 disclose that these function apply to the first selected image); and

a matching means (page 2 paragraph 0023 disclose comparing between the first image and the reference image, this is also seen as the second step of a method, and second routine to be carry out on a image such that will be up to the

standards/requirement for matching) for performing processing of correction of said first image based on said correction information generated (page 1 paragraph 0009 disclose applying the correction changes such as the transforms in the magnitude and phase and still able to see much of the content of the original selected first image, page 1 paragraph 0010 further disclose these image will be accounted, which is seen as applying correction, for rotation, resizing and other geometric alteration for patter detection of image frames) by said correction information generating means, to generate a corrected (page 3 paragraph 0033 disclose the deviation between the actual and reference is calculated, where this is seen as calculating the need correction information first in order for correction) first image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images), performing a correlation comparison (page 2 paragraph 0022 disclose such correlation) between said corrected first image and said second image (page 2 paragraphs 0022 – 0027 disclose the correlation between two adjusted pattern/images, which further show that correction means of transforms are carry out than matching mean by the use of the transforms), and determining if the corrected (page 3 paragraph 0033 disclose the deviation between the actual and reference is calculated, where this is seen as calculating the need correction information first in order for correction) first image (page 2 paragraph 0013 disclose first and second selected

pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) matches (page 2 paragraph 0023 disclose the matching means, page 2 paragraph 0027 further disclose what the matching means are match against and with what information between the two images of interest) the second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) base on results of said correlation processing (page 2 paragraph 0023 disclose the matching means, page 2 paragraph 0027 further disclose what the matching means are match against and with what information between the two images of interest).

(2) Regarding claim 2:

said correction information generating means (page 3 paragraph 0033 disclose the deviation between the actual and reference is calculated, where this is seen as calculating the need correction information first in order for correction) performs a further Fourier transform based on the results of said log-polar coordinate transform (page 1 paragraph 0007 disclose apply log-polar and Fourier transform as part of the image processing for selected image) of said first image and said second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored

memory, thus there are the first and second images) and generates scalar information and/or rotation information (page 1 paragraph 0010 disclose computing and accounting for any rotation, resizing and other geometric alteration, page 2 paragraph 0027 disclose that these transformation does determination such as rotation angle or resizing/scalar factors) as said correction information based on correlation strength of said Fourier transformed first image and second image (page 2 paragraph 0022 disclose such correlation, page 2 paragraph 0023 disclose the correction information, and page 2 paragraph 0027 disclose the Fourier transformed images for correction and comparing analysis), and

said matching means (page 2 paragraph 0023 disclose comparing between the first image and the reference image) generates said corrected (page 3 paragraph 0033 disclose correction information such as actual and reference position and size which can further adjust image by resizing and rotation patter of image) of said first image based on said scalar information and/or said rotation information generated (page 1 paragraph 0010 disclose accounting the selected image of interest for any rotation, resizing/scalar or other geometric alteration, page 2 paragraph 0027 disclose function such as log-polar, rotation angle and resizing factor are calculated, page 3 paragraph 0033 disclose that those deviation between the images and compare) by said correction information generating means (page 3 paragraph 0033 disclose the deviation between the

actual and reference is calculated, where this is seen as calculating the need correction information first in order for correction).

(3) Regarding claim 3:

wherein said correction information generating means (page 3 paragraph 0033 disclose the deviation between the actual and reference is calculated, where this is seen as calculating the need correction information first in order for correction) generates said scalar information and/or rotation information as said correction information (page 1 paragraph 0010 disclose accounting the selected image of interest for any rotation, resizing/scalar or other geometric alteration, page 2 paragraph 0027 disclose function such as log-polar, rotation angle and resizing factor are calculated, page 3 paragraph 0033 disclose that those deviation between the images and compare) based on correlation strength of phase information of said Fourier transformed first image and second image (page 1 paragraph 0009 disclose that phase of the Fourier transform of an image contains most of the information of the selected images, such that this information can still disclose a large portion of information for inspection).

(4) Regarding claim 4:

wherein said correction information generating means (page 3 paragraph 0033 disclose the deviation between the actual and reference is calculated, where this is seen as calculating the need correction information first in order for correction) performs a Fourier-Mellin transform (page 1 paragraph 0007 disclose applying Fourier-Mellin transform for image processing) to said first image and

said second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images), performs a correlation comparison (page 2 paragraph 0023 disclose the matching means, page 2 paragraph 0027 further disclose what the matching means are match against and with what information between the two images of interest) between said Fourier-Mellin transformed first image and second image (page 1 paragraph 0007 disclose applying Fourier-Mellin transform for image processing on images of interest), and generates said scalar information and/or rotation information as said correction information (page 1 paragraph 0010 disclose accounting the selected image of interest for any rotation, resizing/scalar or other geometric alteration, page 2 paragraph 0027 disclose function such as log-polar, rotation angle and resizing factor are calculated, page 3 paragraph 0033 disclose that those deviation between the images and compare).

(5) Regarding claim 5:

wherein said matching means (page 2 paragraph 0023 disclose comparing between the first image and the reference image) generate said corrected first image based on said scalar information and/or said rotation information generated (page 1 paragraph 0010 disclose computing and accounting for any rotation, resizing and other geometric alteration, page 2 paragraph 0027 disclose that these transformation does determination such as

rotation angle or resizing/scalar factors) by said correction information generating means (page 3 paragraph 0033 disclose the deviation between the actual and reference is calculated, where this is seen as calculating the need correction information first in order for correction), performs processing for Fourier transforming (page 1 paragraph 0007 disclose performing Fourier and Mellin transform for image processing, page 1 paragraph 0009 disclose processing image with Fourier transform and extract data from the phase of the transform) to said corrected first image and second image (page 2 paragraph 0023 disclose utilizing calculated deviation between two images, where utilizing deviation is seen as correcting the selected images, page 3 paragraph 0033 disclose deviation between two image are calculated this is seen as the corrected information apply to selected images), and performs correlation comparison (page 2 paragraph 0023 disclose the matching means, page 2 paragraph 0027 further disclose what the matching means are match against and with what information between the two images of interest) processing based on said Fourier transformed (page 6 paragraph 0082 disclose correlation based on fast Fourier transforms) corrected first image and said Fourier (page 1 paragraph 0007 disclose apply Fourier transform as part of the image processing for selected image) transformed second image (page 2 paragraph 0013 disclose first and second pattern, page 2 paragraph 0023 disclose comparing between the first pattern and a reference patter from storage, page 3 paragraph 0033 disclose find the deviation between two images, the actual and the reference).

(6) Regarding claim 6:

wherein said matching means (page 2 paragraph 0023 disclose comparing between the first image and the reference image) generating correction (page 3 paragraph 0033 disclose calculating the deviation and using it to compare, this is seen as the performing correction) said corrected first image based on said scalar information and/or said rotation information (page 1 paragraph 0010 disclose computing and accounting for any rotation, resizing and other geometric alteration, page 2 paragraph 0027 disclose that these transformation does determination such as rotation angle or resizing/scalar factors) generated by said correction information generating means (page 3 paragraph 0033 disclose the deviation between the actual and reference is calculated, where this is seen as calculating the need correction information first in order for correction), performs processing for Fourier transforming (page 1 paragraph 0007 disclose performing Fourier and Mellin transform for image processing, page 1 paragraph 0009 disclose processing image with Fourier transform and extract data from the phase of the transform) to said corrected first image and second image (page 2 paragraph 0023 disclose utilizing calculated deviation between two images, where utilizing deviation is seen as correcting the selected images, page 3 paragraph 0033 disclose deviation between two image are calculated this is seen as the corrected information apply to selected images), and performs correlation processing based on phase information of said Fourier transformed (page 1 paragraph 0009 disclose applying Fourier transform

to obtain phase information, where phase information is well know to contain most of the information in the image) first image and second image (page 2 paragraph 0013 disclose first and second pattern, page 2 paragraph 0023 disclose comparing between the first pattern and a reference patter from storage, page 3 paragraph 0033 disclose find the deviation between two images, the actual and the reference).

(7) Regarding claims 9 and 17:

performing a Fourier transform and a log-polar coordinate transform (page 1 paragraph 0007 disclose apply log-polar and Fourier transform as part of the image processing for selected image) to said first image and said second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images);

generating correction information (page 3 paragraph 0033 disclose correction information such as actual and reference position and size which can further adjust image by resizing and rotation patter of image) of said first image based on the results of said Fourier transform and log-polar coordinate transform (page 1 paragraph 0007 disclose apply log-polar and Fourier transforms to an image, page 3 paragraph 0033 disclose that these function apply to the first selected image);

correcting said first image based on said correction information (page 1 paragraph 0009 disclose applying the correction changes such as the transforms in the magnitude and phase and still able to see much of the content of the original selected first image, page 1 paragraph 0010 further disclose these image will be accounted, which is seen as applying correction, for rotation, resizing and other geometric alteration for patter detection of image frames);

performing a correlation comparison (page 2 paragraph 0023 disclose the matching means, page 2 paragraph 0027 further disclose what the matching means are match against and with what information between the two images of interest) of said corrected said first image and said second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images)[[,]] and

determining if the corrected first image matches the second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second image) based on results of said correlation comparison processing (page 2 paragraph 0023 disclose the matching means, page 2 paragraph 0027 further disclose what the matching means are match against and with what information between the two images of interest).

(8) Regarding claims 10 and 18:

said performing a Fourier transform (page 1 paragraph 0007 disclose apply log-polar and Fourier transform as part of the image processing for selected image) includes performing a second Fourier transform to the results of said log-polar coordinate transform (page 1 paragraph 0007 disclose apply log-polar and Fourier transform as part of the image processing for selected image) of said first image and said second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images), and

said generating correction information (page 3 paragraph 0033 disclose the deviation between the actual and reference is calculated, where this is seen as calculating the need correction information first in order for correction) includes generating scalar information and/or rotation information (page 1 paragraph 0010 disclose computing and accounting for any rotation, resizing and other geometric alteration, page 2 paragraph 0027 disclose that these transformation does determination such as rotation angle or resizing/scalar factors) as said correction information (page 3 paragraph 0033 disclose the deviation between the actual and reference is calculated, where this is seen as calculating the need correction information first in order for correction) based on correlation strength (page 2 paragraph 0022 disclose such correlation) of said Fourier transformed (page 2 paragraph 0023 disclose the correction information,

and page 2 paragraph 0027 disclose the Fourier transformed images for correction and comparing analysis) first image and second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images), and

said correcting (page 3 paragraph 0033 disclose correction information such as actual and reference position and size which can further adjust image by resizing and rotation patter of image) includes to correcting said first image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) based on said scalar information and/or said rotation information (page 1 paragraph 0010 disclose computing and accounting for any rotation, resizing and other geometric alteration, page 2 paragraph 0027 disclose that these transformation does determination such as rotation angle or resizing/scalar factors).

(9) Regarding claims 11 and 19:

wherein said generating correction information (page 3 paragraph 0033 disclose the deviation between the actual and reference is calculated, where this is seen as calculating the need correction information first in order for correction) includes generating, said scalar information and/or rotation information (page 1

paragraph 0010 disclose computing and accounting for any rotation, resizing and other geometric alteration, page 2 paragraph 0027 disclose that these transformation does determination such as rotation angle or resizing/scalar factors) as said correction information (page 3 paragraph 0033 disclose the deviation between the actual and reference is calculated, where this is seen as calculating the need correction information first in order for correction) based on correlation strength (page 2 paragraph 0022 disclose such correlation) of phase information said Fourier transformed (page 1 paragraph 0007 disclose apply Fourier transform as part of the image processing for selected image) first image and second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images).

(10) Regarding claims 12 and 20:

wherein said performing a Fourier transform (page 1 paragraph 0007 disclose apply Fourier transform as part of the image processing for selected image) includes performing, a Fourier- Mellin transform (page 1 paragraph 0007 disclose apply Fourier transform as part of the image processing for selected image) to said first image and said second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images), and

performing processing for correlation between (page 2 paragraph 0023 disclose the matching means, page 2 paragraph 0027 further disclose what the matching means are match against and with what information between the two images of interest) said Fourier-Mellin (page 1 paragraph 0007 disclose apply Fourier transform as part of the image processing for selected image) transformed first image and second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images), and

said generating correction information (page 3 paragraph 0033 disclose correction information such as actual and reference position and size which can further adjust image by resizing and rotation patter of image) includes generating said scalar information and/or rotation information (page 1 paragraph 0010 disclose computing and accounting for any rotation, resizing and other geometric alteration, page 2 paragraph 0027 disclose that these transformation does determination such as rotation angle or resizing/scalar factors) as said correction information (page 3 paragraph 0033 disclose correction information such as actual and reference position and size which can further adjust image by resizing and rotation patter of image).

(11) Regarding claims 13 and 21:

wherein said correcting (page 3 paragraph 0033 disclose the deviation between the actual and reference is calculated, where this is seen as calculating

the need correction information first in order for correction) includes correcting in said first image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) based on said scalar information and/or said rotation information (page 1 paragraph 0010 disclose computing and accounting for any rotation, resizing and other geometric alteration, page 2 paragraph 0027 disclose that these transformation does determination such as rotation angle or resizing/scalar factors) and performing a Fourier transform (page 1 paragraph 0007 disclose apply Fourier transform as part of the image processing for selected image) on said corrected first image and second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images), and

said performing a correlation comparison (page 2 paragraph 0022 disclose such correlation) includes performing a correlation comparison (page 2 paragraph 0022 disclose such correlation) between to said Fourier (page 1 paragraph 0007 disclose apply Fourier transform as part of the image processing for selected image) transformed corrected first image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of

the reference in stored memory, thus there are the first and second images) and said Fourier (page 1 paragraph 0007 disclose apply Fourier transform as part of the image processing for selected image) transformed second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images).

(12) Regarding claims 14 and 22:

wherein said correcting (page 3 paragraph 0033 disclose correction information such as actual and reference position and size which can further adjust image by resizing and rotation patter of image) includes correcting said first image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) based on said scalar information and/or said rotation information (page 1 paragraph 0010 disclose computing and accounting for any rotation, resizing and other geometric alteration, page 2 paragraph 0027 disclose that these transformation does determination such as rotation angle or resizing/scalar factors) and performing a Fourier transform (page 1 paragraph 0007 disclose apply Fourier transform as part of the image processing for selected image) on said corrected (page 3 paragraph 0033 disclose correction information such as actual and reference position and size

which can further adjust image by resizing and rotation patter of image) first image and second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images), and

said performing a correlation comparison (page 2 paragraph 0023 disclose the matching means, page 2 paragraph 0027 further disclose what the matching means are match against and with what information between the two images of interest) includes performing a correlation comparison (page 2 paragraph 0023 disclose the matching means, page 2 paragraph 0027 further disclose what the matching means are match against and with what information between the two images of interest) between phase information (page 1 paragraph 0009 discloses the magnitude and phase of the image) of said Fourier transformed (page 1 paragraph 0007 disclose apply Fourier transform as part of the image processing for selected image) corrected first image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) and said Fourier (page 1 paragraph 0007 disclose apply Fourier transform as part of the image processing for selected image) transformed second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual

geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images).

(15) Regarding claim 25:

a correction information generating unit (page 3 paragraph 0033 disclose the deviation between the actual and reference is calculated, where this is seen as calculating the need correction information first in order for correction) configured to perform a Fourier transform and a log-polar coordinate transform (page 1 paragraph 0007 disclose apply log-polar and Fourier transform as part of the image processing for selected image) on said first image and said second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images), and to generate correction information (page 3 paragraph 0033 disclose correction information such as actual and reference position and size which can further adjust image by resizing and rotation patter of image) of said first image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) based on the results of said Fourier transform and log-polar coordinate transform (page 1 paragraph 0007 disclose apply log-polar and Fourier transform as part of the image processing for selected image);

a correction unit (page 3 paragraph 0033 disclose correction information such as actual and reference position and size which can further adjust image by resizing and rotation patter of image) configured to correct said first image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) based on said correction information (page 3 paragraph 0033 disclose correction information such as actual and reference position and size which can further adjust image by resizing and rotation patter of image) to generate a corrected first image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images);

a correlation unit (page 2 paragraphs 0022 – 0027 disclose the correlation between two adjusted pattern/images) configured to perform a correlation comparison (page 2 paragraphs 0022 – 0027 disclose the correlation between two adjusted pattern/images) between said corrected first image and said second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images); and

a matching unit (page 2 paragraph 0023 disclose the matching means) configured to determine if the corrected first image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) matches the second image (page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) based on results of said correlation unit (page 2 paragraphs 0022 – 0027 disclose the correlation between two adjusted pattern/images).

Claim Rejections – 35 USC 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 7-8, 15-16 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wendt (US 2002/0090109 A1) in view of Oosawa (US 2003/0039405 A1).

(1) Regarding claims 7 and 8:

Wendt teaches regarding matching means (page 2 paragraph 0023 disclose comparing between the first image and the reference image), corrected first and second image (page 2 paragraphs 0022 – 0027 disclose the correlation between two adjusted pattern/images, which further show that correction means of transforms are carry out than matching mean by the use of the transforms), correlation due to phase information (page 1 paragraph 0009 disclose that phase of the Fourier transform of an image contains most of the information of the selected images, such that this information can still disclose a large portion of information for inspection).

Wendt does not teach regarding matching base on parallel movement information, by extraction of common areas and determination parallel information to see if movement information is smaller than predetermine amount of parallel movement.

However, Oosawa teach regarding image matching (title, abstract disclose image position matching, figure 1 and figure 3) base on parallel movement (page 1 paragraph 0008 discloses position matching of images comprising the performance by parallel / linear movement) and common areas (page 1 paragraph 0008 disclose image matching by areas that can be global, template regions; plurality of regions, which mostly are small regions) and determination parallel information to see if movement information is smaller than predetermine amount of parallel movement (page 1 paragraph 008 disclose image matching concern with parallel movement, where determination of the parallel shift quantity

is required and obtain for image matching, such that a two-dimensional n polynomial function of n>2 is use to. Where 2 is the determine number and n is the move. Examiner see this as one of the direct way to test and determine if the parallel movement information n is smaller than predetermined amount of parallel movement value 2).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made use the image matching base on parallel movement and of common areas of Oosawa in the method of Wendt in order that it will have the desire improvement in comparative reading performance, which is not dependent on the skill level of the diagnostician (paragraph 0006), but if there is a diagnostician he will be able to accurately discern the difference between two images such that overlooking of a diseased potion can be prevented (page 1 paragraph 0007). This will further to be possible to obtain image of interest by globally matching with high degree of accuracy (page 2 paragraph 0011).

(2) Regarding claims 15 and 23:

Wendt and Oosawa further teaches:

wherein said correcting (Wendt, page 3 paragraph 0033 disclose the deviation between the actual and reference is calculated, where this is seen as calculating the need correction information first in order for correction) includes generating, parallel movement information (Oosawa, page 1 paragraph 0008 discloses position matching of images comprising the performance by parallel / linear movement) of said corrected first image and second image (Wendt, page 2

paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) based on a peak position of correlation strength (Wendt, page 2 paragraph 0022 disclose such correlation) of phase information (Wendt, page 1 paragraph 0009 discloses the magnitude and phase of the image) of said corrected first image and second image (Wendt, page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images), and extracting common areas (Oosawa, page 1 paragraph 0008 disclose image matching by areas that can be global, template regions; plurality of regions, which mostly are small regions) of said first image and said second image (Wendt, page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) from are said movement amount information (Oosawa, page 1 paragraph 008 disclose image matching concern with parallel movement, where determination of the parallel shift quantity is required and obtain for image matching, such that a two-dimensional n polynomial function of n>2 is use to. Where 2 is the determine number and n is the move. Examiner see this as one of the direct way to test and determine if the

parallel movement information n is smaller than predetermined amount of parallel movement value 2),

said performing a correlation comparison (Wendt, page 2 paragraph 0023 disclose the matching means, page 2 paragraph 0027 further disclose what the matching means are match against and with what information between the two images of interest) includes performing a correlation comparison (Wendt, page 2 paragraph 0023 disclose the matching means, page 2 paragraph 0027 further disclose what the matching means are match against and with what information between the two images of interest) between of said extracted common areas (Oosawa, page 1 paragraph 0008 disclose image matching by areas that can be global, template regions; plurality of regions, which mostly are small regions), and

determining if the corrected (Wendt, page 2 paragraph 0023 disclose the matching means, page 2 paragraph 0027 further disclose what the matching means are match against and with what information between the two images of interest) first image (Wendt, page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) matches (Wendt, page 2 paragraph 0023 disclose the matching means, page 2 paragraph 0027 further disclose what the matching means are match against and with what information between the two images of interest) the second image (Wendt, page 2 paragraph

0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) includes determining if the corrected (Wendt, page 3 paragraph 0033 disclose correction information such as actual and reference position and size which can further adjust image by resizing and rotation patter of image) first image (Wendt, page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) matches (Wendt, page 2 paragraph 0023 disclose the matching means, page 2 paragraph 0027 further disclose what the matching means are match against and with what information between the two images of interest) the second image (Wendt, page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) based on results of said correlation comparison (Wendt, page 2 paragraph 0023 disclose the matching means, page 2 paragraph 0027 further disclose what the matching means are match against and with what information between the two images of interest) between said extracted common areas. (Oosawa, page 1 paragraph 0008 disclose image matching by areas that can be global, template regions; plurality of regions, which mostly are small regions).

(14) Regarding claims 16 and 24:

wherein said correcting (Wendt, page 2 paragraph 0023 disclose the matching means, page 2 paragraph 0027 further disclose what the matching means are match against and with what information between the two images of interest) includes generating, parallel movement information (Oosawa, page 1 paragraph 0008 discloses position matching of images comprising the performance by parallel / linear movement) of said corrected first image and second image (Wendt, page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) based on a peak position of correlation strength (Wendt, page 2 paragraph 0022 disclose such correlation) of phase information Wendt, page 1 paragraph 0009 discloses the magnitude and phase of the image) of said corrected first image and second image (Wendt, page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images), and

determining if the corrected first image (Wendt, page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images)

matches the second image (Wendt, page 2 paragraph 0013 disclose first and second selected pattern/images, page 2 paragraph 0023 disclose comparing the actual geometric of first selected pattern/image to that of the reference in stored memory, thus there are the first and second images) is performed when said parallel movement information is smaller than a predetermined amount of parallel movement (Oosawa, page 1 paragraph 008 disclose image matching concern with parallel movement, where determination of the parallel shift quantity is required and obtain for image matching, such that a two-dimensional n polynomial function of n>2 is use to. Where 2 is the determine number and n is the move. Examiner see this as one of the direct way to test and determine if the parallel movement information n is smaller than predetermined amount of parallel movement value 2).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bloom et al (US Patent Number 6,282,300 B1) disclose rotation, scale, and translation resilient public watermarking for images using a log-polar Fourier transform.

Wendt (US 2002/0126870 A1) disclose method to detect watermark resistant to resizing and translation.

Reisman et al (US 2003/0169910 A1) disclose fingerprint matching using ridge feature maps.

Chaikin et al (US Patent Number 4,267,573) disclose image-processing system.

(10) Response to Argument

Interpretation of the Claimed Terms

As best understood by the Examiner, "a correction information generating means for performing a Fourier transform and a log-polar coordinate transform to said first image and said second image and generating correction information of said first image based on the results of said Fourier transform and log-polar coordinate transform" refers to where two images are match and compare base on the data that is generated by Fourier transform and log-polar coordinate transform on both images of interest for comparison.

Correction data that is stated by the claim is seen by the Examiner as the data from the Fourier transform and log-polar coordinate transform that will be use to ordinate or correction that will be use on one of the image for best matching to the other image.

As best understood by the Examiner, "a matching means for performing processing of correction of said first image based on said correction information generated by said correction information generating means to generate a corrected first image, performing a correlation comparison between said corrected first image and said second image, and determining if the corrected first image matches the second image based on results of said correlation processing " refers to where the data from the

Fourier transform and log-polar coordinate transform will be correlating, or rotate and ordinate the best possible setting for matching, between the two images for matching.

Response to Arguments regarding rejection of claims 1-6, 9-14, 17-22 and 25 under 35 USC 102(b) in view of Wendt (US 2002/0090109)

Regarding claim 1, Appellant argues that Wendt does not teach that the calculated deviation information is used to create a corrected watermark, and that the corrected watermark is compared to any other reference.

Examiner would like to point out that claim language does not disclose anything language regarding to “watermarking” correction. Thus, the argument by the Appellant is moot. However, Wendt was able to teach regarding the correction of watermark. Correction data can be obtained from the Fourier transform and log-polar coordinate transform data of the image as discloses in paragraph 0007. Correction to the data is apply to the images of interest for matching in paragraph 0033, thus that the image of interest is corrected and best process for matching.

Regarding claim 1, Appellant argues Wendt does not describe determining if the corrected first image matches the second image based on results of correlation processing.

Wendt teaches in paragraph 0033 where the correction data is applied to the image. Correction data such as resize, position and rotation factor for the matching

processing. The correlation factors are size, position and rotation data that are use to best correlate the best way to match the images of interest.

Regarding claim 1, Appellant argues Wendt does not teach comparison image and matching of the images.

Wendt teaches in paragraph 0023 to 0027 where comparing of the actual geometric configuration of the first pattern and the reference pattern. Examiner sees this as comparing.

Response to Arguments regarding rejection of claims 7-8, 15-16 and 23-24 under 35 USC 103(a) in view of Wendt (US 2002/0090109) and Oosawa (US 2003/0039405)

Appellant argues that since Wendt does not teaches the claimed language thus all dependent claims are allow as well.

Examiner discloses above that Wendt does teach all the claim language discloses by the Appellant such that dependent claims are still rejected as well.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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